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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/740,262	12/18/2003	Thomas J. Anderson	58716US002	1910

32692 7590 09/11/2007  
3M INNOVATIVE PROPERTIES COMPANY  
PO BOX 33427  
ST. PAUL, MN 55133-3427

EXAMINER
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MARCHESCHI, MICHAEL A

ART UNIT	PAPER NUMBER
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1755

NOTIFICATION DATE	DELIVERY MODE
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09/11/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com  
LegalDocketing@mmm.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/740,262	<b>Applicant(s)</b> ANDERSON ET AL.	
	<b>Examiner</b> Michael A. Marcheschi	<b>Art Unit</b> 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 1/3/06, 5/10/06 and 8/2/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-25, 28 and 49-57 is/are pending in the application.
- 4a) Of the above claim(s) 49-57 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/10/04, 8/12/04, 10/29/04, 12/7/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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Applicant's election of group I, claims 1-29 in the reply filed on 1/3/06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 01/56947.

WO 01/56947 teaches on page 4, line 10, page 8, lines 1-25, page 9, lines 25-30, page 11, lines 3-30, page 12, lines 5-10, page 19, lines 8 and the claims, fused polycrystalline particles comprising an aluminum oxide/yttrium oxide complex (the complex has a garnet or perovskite structure and contains crystals having a dendritic structure-up to 1 micron). The aluminum oxide

used is transitional alumina. The fused material has an aluminum oxide content of at least 50, 60, 70 or 80 weight percent. The amount of yttrium oxide can be calculated from the balance of the particles. The particles have the claimed specified nominal grades.

The claimed invention is anticipated by the reference because the reference teaches fused polycrystalline particles which comprises all of the claimed components. The reference uses transitional alumina and thus, in the final product, some of the alumina will still be in the transitional form absent evidence to the contrary.

In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention absent evidence to the contrary because the reference states on page 11, lines 15-16 that the eutectic is made up of an alumina phase and this implies any alumina phase making transitional alumina obvious. Assuming arguendo about the size of the dendritic crystals, the reference states on page 11, lines 29-30 that the abrasion performance decreases as the size of the primary crystals (dendritic structures) increase, thus one skilled in the art would have appreciated the size required to optimize the abrasion performance through routine experimentation and optimization.

Claims 1, 2, 6, 7, 11, 12, 15-18, 22-25 and 28 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. 20030115805.

U.S. 20030115805 teaches in sections [0023]-[0024], [0057], [0058], [0066], [0077], [0093], [0098], [0103] and [0108]-[0110], fused polycrystalline particles comprising an alpha aluminum oxide crystal phase and an aluminum oxide/yttrium oxide complex (the complex has a garnet structure) crystal phase. The aluminum oxide used is transitional alumina. The fused

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material has an aluminum oxide content and yttrium oxide content consistent with the instant claims. At least a portion (of the particles comprises alpha alumina having a crystal size greater than 200 nm (i.e. reads on the crystallite size of instant claim 26). The particles have the claimed specified nominal grades and are made by melting and cooling.

The claimed invention is anticipated by the reference because the reference teaches fused polycrystalline particles which comprises all of the claimed components. The reference uses transitional alumina (gamma alumina) and thus, in the final product, some of the alumina will still be in the transitional form absent evidence to the contrary. In addition, the reference defines alpha alumina and this is a transitional alumina.

In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention absent evidence to the contrary because the reference states that the eutectic is made up of an alumina (phase) and this implies any alumina phase making transitional alumina obvious.

The additional references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

Any foreign language documents submitted by applicant has been considered to the extent of the short explanation of significance, English abstract or English equivalent, if appropriate.

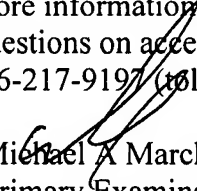
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MM  
8/07

  
Michael A Marcheschi  
Primary Examiner  
Art Unit 1755